

SEQUENCE LISTING

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<120> ESSENTIAL DOWNSTREAM COMPONENT OF THE WINGLESS SIGNALING PATHWAY AND THERAPEUTIC  
AND DIAGNOSTIC APPLICATIONS BASED THEREON

<130> Q60361

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<170> PatentIn version 3.1

<210> 1

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acc Thr 1430	aac Asn	acc Thr	aga Arg	agt Ser	caa Gln	caa Gln 1435	caa Gln	cag Gln	cat His	atg Met	cac His 1440	cag Gln	cag Gln	cac His	6393

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Gln Ser	Asn Met Ile Thr Met	Pro Pro Asn Leu Ser	Pro Asn Pro	
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Thr Phe	Phe Val Asn Lys		
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Leu Ser Gly Gln Phe Gln Thr Ile Ile Ala Tyr His
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<400> 3

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<212> PRT  
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Lys Ile Lys Lys Met Asn Gln Phe Leu Phe Pro Glu Asn Glu Asn Ser  
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Val Gly Ala  
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Asp Gly Leu Ser Gln Glu Gln Leu Glu His Arg Glu Arg Ser Leu Gln  
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Thr Leu Arg Asp Ile Gln Arg Met Leu Phe Pro Asp Glu Lys Glu Phe  
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Thr Gly Ala  
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Gln Met Glu Trp Ser Lys Ile Gln His Gln Phe Phe Glu Glu Arg  
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<400> 7

Gln Ile Ala Trp Leu Lys Leu Gln Gln Glu Phe Tyr Glu Glu Lys  
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Leu Gln Gly Pro Pro Pro Pro Tyr His  
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<213> Human lgs/bcl9

<400> 9

Val Arg Gly Pro Pro Pro Pro Tyr Gln  
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Leu Pro Thr Asn Ser Pro Ser Met Asp Gly Thr Gly Ser Leu Ser Gly  
35 40 45

Ser Val Pro Gln Ala Asn Thr Ser Thr Val Gln Ala Gly Thr Thr Thr  
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Val Leu Ser Ala Asn Lys Asn Cys Phe Gln Ala Asp Thr Pro Ser Pro  
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Ser Asn Gln Asn Arg Ser Arg Asn Thr Gly Ser Ser Ser Val Leu Thr  
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His Asn Leu Ser Ser Asn Pro Ser Thr Pro Leu Ser His Leu Ser Pro  
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Gly Ser Leu Pro Ser Ser Thr Pro Tyr Thr Met Pro Pro Glu Pro Thr  
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Leu Ser Gln Asn Pro Leu Ser Ile Met Met Ser Arg Met Ser Lys Phe  
35 40 45

Ala Met Pro Ser Ser Thr Pro Leu Tyr His Asp Ala Ile Lys Thr Val  
50 55 60

Ala Ser Ser Asp Asp Asp Ser Pro Pro Ala Arg Ser Pro Asn Leu Pro  
65 70 75 80

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Ile Ser Gly Pro Asn Pro Val Val Pro Met Pro Thr Leu Ser Pro  
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<400> 12

Asn Pro Lys Met Cys Val Ala Gly Gly Pro Asn Gly Pro Pro Gly Phe  
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Asp Ala Ala Leu Cys Lys Pro Gly Gly Pro Gly Gly Pro Asp Ser Phe  
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Gln Ser Ser Pro Lys Ser Lys Gln Glu Val Met Val Arg Pro Pro Thr
20          25          30

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Val Met Ser Pro Ser Gly Asn Pro Gln Leu Asp Ser Lys Phe Ser Asn
35          40          45

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Gln Gly Lys Gln Gly Gly Ser Ala Ser Gln Ser Gln Pro Ser Pro Cys  
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Asp Ser Lys Ser Gly Gly His Thr Pro Lys Ala Leu Pro Gly Pro Gly  
65 70 75 80

Gly Ser Met Gly Leu Lys Asn Gly Ala Gly Asn Gly Ala Lys Gly Lys  
85 90 95

Gly Lys Arg Glu Arg Ser Ile Ser Ala Asp Ser Phe Asp Gln Arg Asp  
100 105 110

Pro Gly Thr Pro Asn Asp Asp Ser Asp Ile Lys Glu Cys Asn Ser Ala  
115 120 125

Asp His Ile Lys Ser Gln Asp Ser Gln His Thr Pro His Ser Met Thr  
130 135 140

Pro Ser Asn Ala Thr Ala Pro Arg Ser Ser Thr Pro Ser His Gly Gln  
145 150 155 160

Thr Thr Ala Thr Glu Pro Thr Pro Ala Gln Lys Thr Pro Ala Lys Val  
165 170 175

Val Tyr Val Phe Ser Thr Glu Met Ala Asn Lys Ala Ala Glu Ala Val  
180 185 190

Leu Lys Gly Gln Val Glu Thr Ile Val Ser Phe His Ile Gln Asn Ile  
195 200 205

Ser Asn Asn Lys Thr Glu Arg Ser Thr Ala Pro Leu Asn Thr Gln Ile  
210 215 220

Ser Ala Leu Arg Asn Asp Pro Lys Pro Leu Pro Gln Gln Pro Pro Ala  
225 230 235 240

Pro Ala Asn Gln Asp Gln Asn Ser Ser Gln Asn Thr Arg Leu Gln Pro  
245 250 255

Thr Pro Pro Ile Pro Ala Pro Ala Pro Lys Pro Ala Ala Pro Pro Arg  
260 265 270

Pro Leu Asp Arg Glu Ser Pro Gly Val Glu Asn Lys Leu Ile Pro Ser

275

280

285

Val Gly Ser Pro Ala Ser Ser Thr Pro Leu Pro Pro Asp Gly Thr Gly  
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Pro Asn Ser Thr Pro Asn Asn Arg Ala Val Thr Pro Val Ser Gln Gly  
 305 310 315 320

Ser Asn Ser Ser Ser Ala Asp Pro Lys Ala Pro Pro Pro Pro Pro Val  
 325 330 335

Ser Ser Gly Glu Pro Pro Thr Leu Gly Glu Asn Pro Asp Gly Leu Ser  
 340 345 350

Gln Glu Gln Leu Glu His Arg Glu Arg Ser Leu Gln Thr Leu Arg Asp  
 355 360 365

Ile Gln Arg Met Leu Phe Pro Asp Glu Lys Glu Phe Thr Gly Ala Gln  
 370 375 380

Ser Gly Gly Pro Gln Gln Asn Pro Gly Val Leu Asp Gly Pro Gln Lys  
 385 390 395 400

Lys Pro Glu Gly Pro Ile Gln Ala Met Met Ala Gln Ser Gln Ser Leu  
 405 410 415

Gly Lys Gly Pro Gly Pro Arg Thr Asp Val Gly Ala Pro Phe Gly Pro  
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Gln Gly His Arg Asp Val Pro Phe Ser Pro Asp Glu Met Val Pro Pro  
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Ser Met Asn Ser Gln Ser Gly Thr Ile Gly Pro Asp His Leu Asp His  
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Met Thr Pro Glu Gln Ile Ala Trp Leu Lys Leu Gln Gln Glu Phe Tyr  
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Glu Glu Lys Arg Arg Lys Gln Glu Gln Val Val Val Gln Gln Cys Ser  
 485 490 495

Leu Gln Asp Met Met Val His Gln His Gly Pro Arg Gly Val Val Arg  
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Gly Pro Pro Pro Pro Tyr Gln Met Thr Pro Ser Glu Gly Trp Ala Pro  
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Gly Gly Thr Glu Pro Phe Ser Asp Gly Ile Asn Met Pro His Ser Leu  
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Pro Pro Arg Gly Met Ala Pro His Pro Asn Met Pro Gly Ser Gln Met  
545 550 555 560

Arg Leu Pro Gly Phe Ala Gly Met Ile Asn Ser Glu Met Glu Gly Pro  
565 570 575

Asn Val Pro Asn Pro Ala Ser Arg Pro Gly Leu Ser Gly Val Ser Trp  
580 585 590

Pro Asp Asp Val Pro Lys Ile Pro Asp Gly Arg Asn Phe Pro Pro Gly  
595 600 605

Gln Gly Ile Phe Ser Gly Pro Gly Arg Gly Glu Arg Phe Pro Asn Pro  
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Gln Gly Leu Ser Glu Glu Met Phe Gln Gln Gln Leu Ala Glu Lys Gln  
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Leu Gly Leu Pro Pro Gly Met Ala Met Glu Gly Ile Arg Pro Ser Met  
645 650 655

Glu Met Asn Arg Met Ile Pro Gly Ser Gln Arg His Met Glu Pro Gly  
660 665 670

Asn Asn Pro Ile Phe Pro Arg Ile Pro Val Glu Gly Pro Leu Ser Pro  
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Ser Arg Gly Asp Phe Pro Lys Gly Ile Pro Pro Gln Met Gly Pro Gly  
690 695 700

Arg Glu Leu Glu Phe Gly Met Val Pro Ser Gly Met Lys Gly Asp Val  
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Asn Leu Asn Val Asn Met Gly Ser Asn Ser Gln Met Ile Pro Gln Lys  
725 730 735

Met Arg Glu Ala Gly Ala Gly Pro Glu Glu Met Leu Lys Leu Arg Pro  
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Gly Gly Ser Asp Met Leu Pro Ala Gln Gln Lys Met Val Pro Leu Pro  
755 760 765

Phe Gly Glu His Pro Gln Gln Glu Tyr Gly Met Gly Pro Arg Pro Phe  
770 775 780

Leu Pro Met Ser Gln Gly Pro Gly Ser Asn Ser Gly Leu Arg Asn Leu  
785 790 795 800

Arg Glu Pro Ile Gly Pro Asp Gln Arg Thr Asn Ser Arg Leu Ser His  
805 810 815

Met Pro Pro Leu Pro Leu Asn Pro Ser Ser Asn Pro Thr Ser Leu Asn  
820 825 830

Thr Ala Pro Pro Val Gln Arg Gly Leu Gly Arg Lys Pro Leu Asp Ile  
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Ser Val Ala Gly Ser Gln Val His Ser Pro Gly Ile Asn Pro Leu Lys  
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Ser Pro Thr Met His Gln Val Gln Ser Pro Met Leu Gly Ser Pro Ser  
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Gly Asn Leu Lys Ser Pro Gln Thr Pro Ser Gln Leu Ala Gly Met Leu  
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Ala Gly Pro Ala Ala Ala Ala Ser Ile Lys Ser Pro Pro Val Leu Gly  
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Ser Ala Ala Ala Ser Pro Val His Leu Lys Ser Pro Ser Leu Pro Ala  
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Pro Ser Pro Gly Trp Thr Ser Ser Pro Lys Pro Pro Leu Gln Ser Pro  
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Gly Ile Pro Pro Asn His Lys Ala Pro Leu Thr Met Ala Ser Pro Ala  
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Met Leu Gly Asn Val Glu Ser Gly Gly Pro Pro Pro Pro Thr Ala Ser  
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Gln Pro Ala Ser Val Asn Ile Pro Gly Ser Leu Pro Ser Ser Thr Pro  
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Tyr Thr Met Pro Pro Glu Pro Thr Leu Ser Gln Asn Pro Leu Ser Ile  
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Leu Tyr His Asp Ala Ile Lys Thr Val Ala Ser Ser Asp Asp Asp  
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Thr Tyr Ser Pro Glu Thr Ser Arg Arg Lys Leu Pro Gln Ala Pro Lys
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Ala Ser Phe Leu Gly Gln Gln Gly Arg Val Ile Trp Lys Pro Leu Ser
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Glu Glu Leu Arg Asp Gln Gly Ala Asp Ala Ala Gly Gly Pro Ala Ser
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Ile Met Ser Pro Ile Ala Thr Val Asn Ala Ser Gly Leu Ser Lys Glu  
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Gln Leu Glu His Arg Glu Arg Ser Leu Gln Thr Leu Arg Asp Ile Glu  
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Arg Leu Leu Leu Arg Ser Gly Glu Thr Glu Pro Phe Leu Lys Gly Ala  
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Pro Arg Arg Ser Gly Gly Leu Lys Lys Tyr Glu Glu Pro Leu Gln Ser  
115 120 125

Met Ile Ser Gln Thr Gln Ser Leu Gly Gly Pro Pro Leu Glu His Glu  
130 135 140

Val Pro Gly His Pro Pro Gly Gly Asp Met Gly Gln Gln Met Asn Met  
145 150 155 160

Met Ile Gln Arg Leu Gly Gln Asp Ser Leu Thr Pro Glu Gln Val Ala  
165 170 175

Trp Arg Lys Leu Gln Glu Glu Tyr Tyr Glu Glu Lys Arg Arg Lys Glu  
180 185 190

Glu Gln Ile Gly Leu His Gly Ser Arg Pro Leu Gln Asp Met Met Gly  
195 200 205

Met Gly Gly Met Met Val Arg Gly Pro Pro Pro Pro Tyr His Ser Lys  
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Pro Gly Asp Gln Trp Pro Pro Gly Met Gly Ala Gln Leu Arg Gly Pro  
225 230 235 240

Met Asp Val Gln Asp Pro Met Gln Leu Arg Gly Gly Pro Pro Phe Pro  
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Gly Pro Arg Phe Pro Gly Asn Gln Ile Gln Arg Val Pro Gly Phe Gly  
260 265 270

Gly Met Gln Ser Met Pro Met Glu Val Pro Met Asn Ala Met Gln Arg  
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Pro Val Arg Pro Gly Met Gly Trp Thr Glu Asp Leu Pro Pro Met Gly  
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Gly Pro Ser Asn Phe Ala Gln Asn Thr Met Pro Tyr Pro Gly Gly Gln  
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Gly Glu Ala Glu Arg Phe Met Thr Pro Arg Val Arg Glu Glu Leu Leu  
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Arg His Gln Leu Leu Glu Lys Arg Ser Met Gly Met Gln Arg Pro Leu  
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Gly Met Ala Gly Ser Gly Met Gly Gln Ser Met Glu Met Glu Arg Met  
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Met Gln Ala His Arg Gln Met Asp Pro Ala Met Phe Pro Gly Gln Met  
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Ala Gly Gly Glu Gly Leu Ala Gly Thr Pro Met Gly Met Glu Phe Gly  
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Gly Gly Arg Gly Leu Leu Ser Pro Pro Met Gly Gln Ser Gly Leu Arg  
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Glu Val Asp Pro Pro Met Gly Pro Gly Asn Leu Asn Met Asn Met Asn  
420 425 430

Val Asn Met Asn Met Asn Met Asn Leu Asn Val Gln Met Thr Pro Gln  
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Gln Gln Met Leu Met Ser Gln Lys Met Arg Gly Pro Gly Asp Leu Met  
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Gly Pro Gln Gly Leu Ser Pro Glu Glu Met Ala Arg Val Arg Ala Gln  
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Asn Ser Ser Gly Met Val Pro Leu Pro Ser Ala Asn Pro Pro Gly Pro  
485 490 495

Leu Lys Ser Pro Gln Val Leu Gly Ser Ser Leu Ser Val Arg Ser Pro  
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Thr Gly Ser Pro Ser Arg Leu Lys Ser Pro Ser Met Ala Val Pro Ser

515

520

525

Pro Gly Trp Val Ala Ser Pro Lys Thr Ala Met Pro Ser Pro Gly Val  
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Ser Gln Asn Lys Gln Pro Pro Leu Asn Met Asn Ser Ser Thr Thr Leu  
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Ser Asn Met Glu Gln Asp Pro Thr Pro Ser Gln Asn Pro Leu Ser Leu  
 565 570 575

Met Met Thr Gln Met Ser Lys Tyr Ala Met Pro Ser Ser Thr Pro Leu  
 580 585 590

Tyr His Asn Ala Ile Lys Thr Ile Ala Thr Ser Asp Asp Glu Leu Leu  
 595 600 605

Pro Asp Arg Pro Leu Leu Pro Pro Pro Pro Pro Pro Gln Gly Ser Gly  
 610 615 620

Pro Gly Gly Pro Asp Ser Leu Asn Ala Pro Cys Gly Pro Val Pro Ser  
 625 630 635 640

Ser Ser Gln Met Met Pro Phe Pro Pro Arg Leu Gln Gln Pro His Gly  
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Ala Met Ala Pro Thr Gly Gly Gly Gly Gly Gly Pro Gly Leu Gln Gln  
 660 665 670

His Tyr Pro Ser Gly Met Ala Leu Pro Pro Glu Asp Leu Pro Asn Gln  
 675 680 685

Pro Pro Gly Pro Met Pro Pro Gln Gln His Leu Met Gly Lys Ala Met  
 690 695 700

Ala Gly Arg Met Gly Asp Ala Tyr Pro Pro Gly Val Leu Pro Gly Val  
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Ala Ser Val Leu Asn Asp Pro Glu Leu Ser Glu Val Ile Arg Pro Thr  
 725 730 735

Pro Thr Gly Ile Pro Glu Phe Asp Leu Ser Arg Ile Ile Pro Ser Glu  
 740 745 750

Lys Pro Ser Ser Thr Leu Gln Tyr Phe Pro Lys Ser Glu Asn Gln Pro  
755 760 765

Pro Lys Ala Gln Pro Pro Asn Leu His Leu Met Asn Leu Gln Asn Met  
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Met Ala Glu Gln Thr Pro Ser Arg Pro Pro Asn Leu Pro Gly Gln Gln  
785 790 795 800

Gly Asp Arg Pro Leu Val Val Val Ile Pro Gly Thr Arg Ala Met Ala  
805 810 815

Pro Ala Gln Arg Cys Pro Leu Cys Arg Gln Thr Phe Phe Cys Gly Arg  
820 825 830

Gly His Val Tyr Ser Arg Lys His Gln Arg Gln Leu Lys Glu Ala Leu  
835 840 845

Glu Arg Leu Leu Pro Gln Val Glu Ala Ala Arg Lys Ala Ile Arg Ala  
850 855 860

Ala Gln Val Glu Arg Tyr Val Pro Glu His Glu Arg Cys Cys Trp Cys  
865 870 875 880

Leu Cys Cys Gly Cys Glu Val Arg Glu His Leu Ser His Gly Asn Leu  
885 890 895

Thr Val Leu Tyr Gly Gly Leu Leu Glu His Leu Ala Ser Pro Glu His  
900 905 910

Lys Lys Ala Thr Asn Lys Phe Trp Trp Glu Asn Lys Ala Glu Val Gln  
915 920 925

Met Lys Glu Lys Phe Leu Val Thr Pro Gln Asp Tyr Ala Arg Phe Lys  
930 935 940

Lys Ser Met Val Lys Gly Leu Asp Ser Tyr Glu Glu Lys Glu Asp Lys  
945 950 955 960

Val Ile Lys Glu Met Ala Ala Gln Ile Arg Glu Val Glu Gln Ser Arg  
965 970 975

Gln Glu Val Val Arg Ser Val Leu Glu Thr Gly Pro Pro Arg Tyr Ala  
980 985 990

Leu Thr Val Arg Ser Pro Ala Val Leu Ser Arg Arg Thr Leu Lys Ser  
995 1000 1005

Gly Ala Phe Pro Pro Gln Thr Pro Glu Ala His Pro Gln Ala Arg  
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Cys Leu Cys Ala Pro Arg Arg Gly Ala Leu Lys Pro Glu Pro Pro  
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Gly Arg Thr Leu Lys Leu Gly Val Pro Pro His Thr Thr Arg Lys  
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Ala Arg Pro His Ala Ala Lys Thr Ser Pro Arg Pro Arg Cys Thr  
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Arg Gln Ala Pro Asn Lys Thr Gln Ser Leu Gln Leu Ala Gly Lys  
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Ala Arg Lys Thr Ala Leu His Leu Gln Thr Lys Ala Leu Val Gly  
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27